14.0 Aesthetics and Visual Resources

14.1. Introduction

This chapter defines the visual and aesthetic resources pertinent to the Long Bridge Project (the Project), and defines the regulatory context, methodology, and Affected Environment. For each Action Alternative and the No Action Alternative, this chapter assesses the potential short-term and long-term impacts on visual and aesthetic resources. This chapter also discusses proposed avoidance, minimization, and mitigation measures to reduce adverse impacts of the Project.

Visual and aesthetic resources include features of the built and natural environments that together comprise the visual environment. Examples of visual and aesthetic resources surrounding Long Bridge include parks, natural areas, trails, parkways, scenic features, open vistas, terrain, and water bodies. Historic or urban core districts are also visual resources. These visual resources create visual and aesthetic qualities that define specific locations in the District of Columbia (the District) and Arlington County, Virginia.

14.2. Regulatory Context & Methodology

This section describes the most pertinent regulatory context for evaluating impacts to visual and aesthetic resources and summarizes the methodology for evaluating current conditions and the probable consequences of the alternatives. This section also includes a description of the Study Area. **Appendix D1, Methodology Report**, provides the complete list of laws, regulations, and other guidance considered, and a full description of the analysis methodology**.**

14.2.1. Regulatory Context

The National Environmental Policy Act of 1969 includes the responsibility to "assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings."[1] In addition, numerous laws, regulations, and Executive Orders under multiple federal agencies address aesthetics and visual resource considerations.

For the purposes of this Environmental Impact Statement, the Federal Highway Administration (FHWA) *Guidelines for the Visual Impact Assessment of Highway Projects* (FHWA-HEP-15-029) establishes the general methodology used to assess impacts to aesthetics and visual resources.[2] While the FHWA is not a regulatory body for railroad projects, the agency is an expert resource regarding visual impact assessments, due to the FHWA's extensive documentation of visual resources, impacts, and mitigation measures. The National Capital Planning Commission (NCPC) has review authority over the Project relative to visual and aesthetic impacts, as outlined in the National Capital Planning Act of 1952.[3] Also considered is the Height of Buildings Act of 1910 which limits the height of buildings in the District of

[1] 42 USC 4331

[2] FHWA-HEP-15-029. Guidelines for the Visual Impact Assessment of Highway Projects. January 2015. Accessed from https://www.environment.fhwa.dot.gov/env_topics/other_topics/VIA_Guidelines_for_Highway_Projects.aspx. Accessed May 9, 2018.

[3] 40 USC 8701.

Columbia to 90 feet along residential streets and up to a maximum of 130 feet along commercial corridors.[4]

14.2.2. Methodology

This section contains a summary of the methodology used to evaluate the current conditions of the resource and the effects of the alternatives. It also describes the Local and Regional Study Areas established for evaluation of visual impacts.

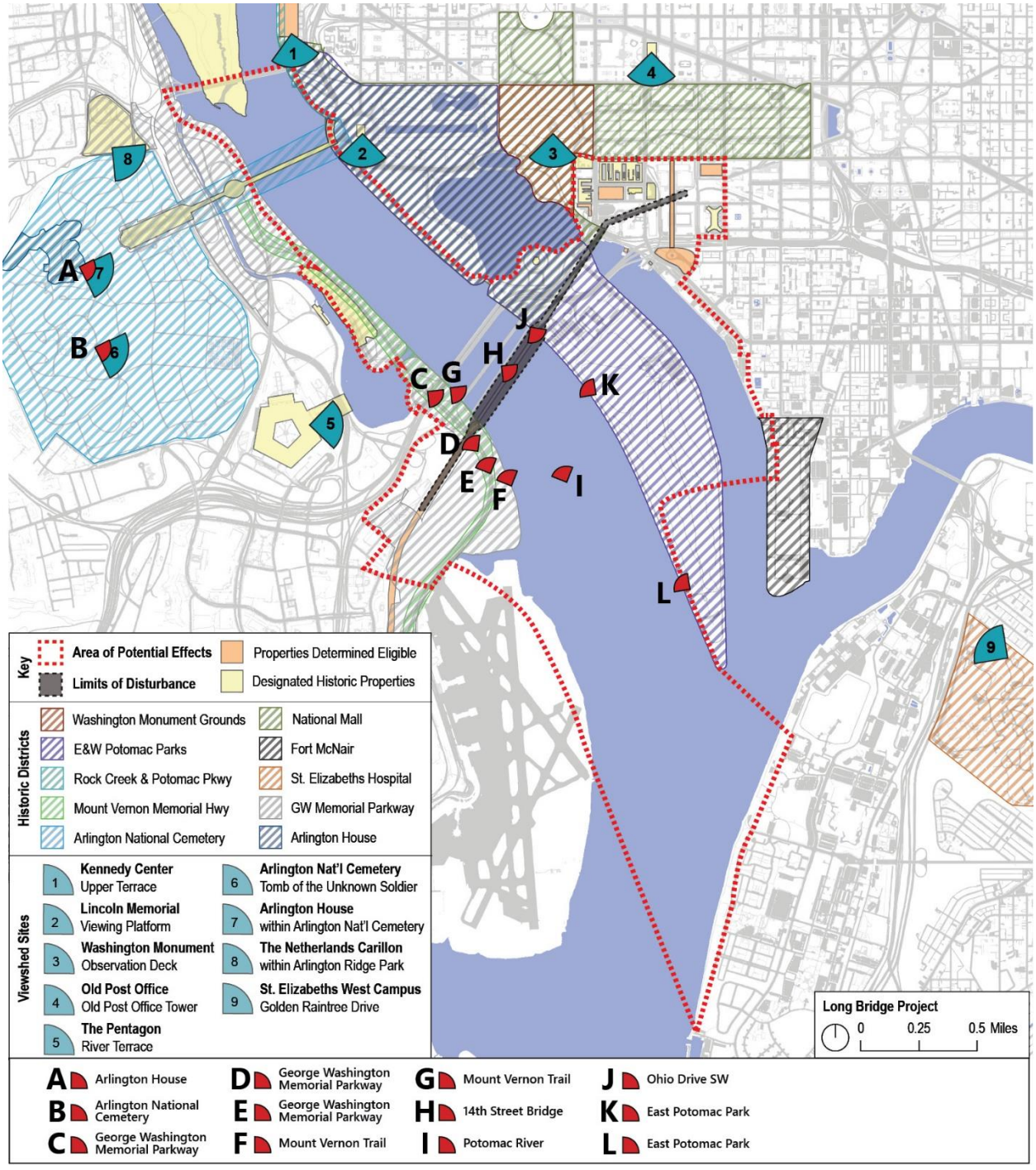
The Local Study Area for aesthetics and visual resources corresponds directly with the Area of Potential Effects (APE) established in **Chapter 15, Cultural Resources**, for the assessment of effects to historic properties (**Figure 14-1**). This Local Study Area extends beyond the Project footprint to encompass the viewsheds, viewpoints, and areas from which the existing Long Bridge is visible. The majority of the Local Study Area comprises a contiguous area that generally includes the Potomac River and land immediately adjacent to the river to the north and south. The Roosevelt Bridge marks the northern boundary of this area and the shoreline of Joint Base Anacostia-Bolling marks the southern end. The Study Area also includes a Regional Study Area of additional, isolated viewpoints in the outer extents of the area surveyed, where the Long Bridge Corridor is visible from a distance in select locations due to the higher elevation of these viewpoints (shown as blue wedges in **Figure 14-1**).

The study prepared the visual resources analysis in accordance with the FHWA's *Guidelines for the Visual Impact Assessment of Highway Projects*. Documentation of the Affected Environment included development of an annotated visual impact analysis map indicating the general locations of viewsheds and viewpoint locations for diverse types of viewers. The analysis identified continuous viewpoints along the George Washington Memorial Parkway (GWMP). A series of field visits, including photography, documented the existing visual character of the Local and Regional Study Area.

Based on field observations and consultation with reviewing agencies, Federal Railroad Administration (FRA) and the District Department of Transportation (DDOT) identified 12 representative views with the greatest potential to demonstrate impacts to aesthetics and visual resources. FRA and DDOT confirmed and further refined these views and viewshed locations, shown in **Figure 14-1**, following a Technical Advisory Committee (TAC) meeting on August 16, 2018, that included the National Park Service (NPS), NCPC, the District of Columbia State Historic Preservation Office (DC SHPO), and the Virginia Department of Historic Resources.[5]

[4] Act of June 1, 1910, ch 263, Pub. L No. 61-196, 36 Stat. 452 (1910) codified at D.C. ST. 6-601.01-6-601.09. Accessed from https://code.dccouncil.us/us/congress/laws/public/61-2-ch263.html#%C2%A72. Accessed July 10, 2019.
[5] The Commission on Fine Arts was invited to the TAC meeting but did not attend.

Figure 14-1 | Local and Regional Study Areas and Viewsheds Selected for Analysis



For each location, photo simulations of each Action Alternative were developed to qualitatively assess the visual and aesthetic impacts from each Action Alternative. To produce the photo simulations, the three-dimensional digital massing model was aligned with existing conditions photographs and superimposed over the photographs. Adobe Photoshop also helped visualize the changes to the visual environment, including the addition and removal of certain visual elements. Field visits, analysis of photographs, Google Earth mapping, and review of planning guidance to verify and qualitatively assess aesthetic and visual impacts supported this process. The evaluation of visual effects focused on determining the compatibility of the impact, the sensitivity of the viewers, and the degree of the impact to resources.

14.3. Affected Environment

This section summarizes the current conditions of the visual and aesthetic resources. For a complete description of the Affected Environment, see **Appendix D2, Affected Environment Report**.

The Long Bridge Corridor falls generally within one of the "Preeminent Viewsheds and View Corridors" identified by the *Urban Design Element of the Comprehensive Plan for the National Capital – Federal Elements*: the primary north-south vista from the White House to the southern horizon. The *Urban Design Element* identifies the National Mall, the White House, the Washington Monument, the Jefferson Memorial, the Tidal Basin, the Potomac River, and the Wilson Bridge as the most visually prominent structures within this panoramic, scenic setting. Important resources located within this vista include the GWMP, Ronald Reagan Washington National Airport, the Pentagon, and the Air Force Memorial.[6, 7]

14.3.1. Existing Population and Viewers

The Local Study Area population on both sides of the Potomac River includes neighbors, visitors, and a range of travelers, all of whom constitute the viewers of the Project Area. Viewer sensitivity to changes in the visual environment depends on individual viewer preferences and is the consequence of two factors, viewer exposure and viewer awareness. Viewer sensitivity remains constant over time, given that viewers will continue to engage in the same activities in the future as they do now.

14.3.1.1. Neighbors

No residential neighbors reside within the Local Study Area. Recreational neighbors within the Local Study Area include visitors to and workers at the multiple recreational and tourist destinations, including Long Bridge Park, the GWMP and Mount Vernon Trail (MVT), Gravelly Point Park, and Federal parkland along the southern edges of East Potomac Park.[8] Other neighbors in the District within the Local Study Area include retail businesses and office building tenants in the L'Enfant Plaza and Southwest Waterfront areas, as well as employees and guests of the Mandarin Oriental Hotel, visitors to the piers of the District Wharf development, and boat-related businesses on the Washington Channel.

[6] NCPC. 2016. Comprehensive Plan for the National Capital-Federal Elements. Accessed from https://www.ncpc.gov/plans/compplan/. Accessed May 10, 2018.
[7] NCPC. 2016. Comprehensive Plan for the National Capital-Federal Elements. Accessed from https://www.ncpc.gov/plans/compplan/. Accessed May 10, 2018.
[8] NPS considers the GWMP to be parkland; drivers and vehicular passengers are considered, therefore, to be park visitors.

14.3.1.2. Travelers

Travelers through the Local Study Area include vehicular travelers on surrounding roadways (I-395, GWMP, 14th Street Bridge, and local streets in the District and Arlington County); Amtrak and Virginia Railway Express railroad passengers using the Long Bridge Corridor; passengers on the Metrorail bridge that runs parallel to the Long Bridge Corridor; pedestrians and bicyclists on sidewalks, trails, and bicycle facilities proximate to the Long Bridge Corridor; and boat travelers on the Potomac River (including water taxis, sightseeing boats for tourists, and a range of public and private vessels). The largest subset of these travelers would be expected to be primarily commuter, with a smaller subset of touring travelers visiting the Local Study Area for recreation, leisure, and tourism.

14.3.2. Existing Visual Quality

Visual quality is an assessment of what viewers like and dislike about the visual resources that compose the visual character of a particular scene. Viewers may evaluate specific visual resources differently based on their particular interests, sensitivities, and individual reactions to the landscape around them. For the purpose of analyzing aesthetic and visual impacts, the assessment of visual quality considers the three elements that comprise visual quality: natural harmony, cultural order, and project coherence.

14.3.2.1. Natural Harmony

The degree of natural harmony that exists in a landscape is derived from the composition of natural visual resources, which include the land, geologic features, water, vegetation, and animals that comprise the natural environment. The Local Study Area includes the Potomac River, which constitutes the most prominent natural element within the Local Study Area and is one of the area's greatest contributors to natural harmony. The Long Bridge Corridor also crosses the western portion of the Washington Channel, which parallels the Potomac River between East Potomac Park and the District's Southwest waterfront. The Local Study Area sits within the central low point of a topographic bowl.

Other notable natural visual resources include the natural areas along the northern edges of both East Potomac Park, where a continuous row of trees provides a green and natural edge for the park and the northern banks of the Potomac River. Similarly, along the southern banks of the Potomac River, scattered trees interspersed with expanses of open lawn define the natural character of the land between the river and the GWMP. The tree canopy in this area is most dense closest to the Long Bridge Corridor, east and west of the railroad tracks. Additional tree canopy lines and visually buffers both sides of the Long Bridge Corridor as it bisects East Potomac Park before crossing the Washington Channel.

Natural harmony is lowest at the Corridor's northern end in the District, where the surrounding landscape is dominated by urban development, transportation infrastructure, and surface parking. Along the Potomac River, the close proximity of multiple bridges across the Potomac diminishes the natural harmony of the river near the Project Area. The bridges interrupt the natural visual character of the river with manmade infrastructure that obstructs views along the river.

14.3.2.2. Cultural Order

The composition of the visual resources of the cultural environment—buildings, structures, objects, sites, districts, and artifacts—determines the extent of cultural order in a landscape. Cultural visual resources within the Local Study Area are largely limited to the riverfront edges of urban development

immediately proximate to the Potomac River (including portions of the District's Southwest waterfront), as well as urban development in a portion of the L'Enfant Plaza and Southwest waterfront areas of the District, where the Long Bridge Corridor curves northward into these areas. The Monumental Core and the cultural landscapes of the GWMP and National Mall and Memorial Parks are also key features of the cultural order within the Local Study Area. Monuments such as the Washington Monument are prominent as part of the viewshed. Notable structures within the Local Study Area includes the bridges crossing the Potomac River: the Metrorail bridge that runs adjacent to the Long Bridge Corridor, the 14th Street Bridge, the Arlington Memorial Bridge (1.25 miles upriver from Long Bridge), and the Theodore Roosevelt Bridge (1.7 miles upriver from Long Bridge). Of these structures, the Arlington Memorial Bridge—with its stone arches, Neoclassical masonry, steel bascule span, and monumental sculptures—is the most architecturally significant. The other bridges have more utilitarian designs. Collectively, this sequence of bridge crossings provides a sense of order to views upstream and downstream along the river. It also creates a tunnel effect for travelers on the GWMP.

Existing transportation infrastructure—in particular the elevated portions of I-395, the 12th Street Expressway, and the ramp to L'Enfant Plaza SW and 14th Street SW—largely detracts from the sense of order in the landscape, due to the extent to which it bisects and fragments surrounding urban development.

14.3.2.3. Project Coherence

Design quality is a product of the organized coherence between material, forms, and functions of a corridor. As it passes over the Potomac River, the Long Bridge Corridor has visual coherence as a continuous railroad structure with a utilitarian but distinctive architectural design that includes an identifiable trestle. While the architectural design of this portion of the corridor reflects the bridge's utilitarian purpose of providing a railroad connection between the District and Virginia, its architectural coherence is diminished by the rusting and graffiti-marked face of the bridge. North and south of the river, the Corridor loses visual coherence, due to its fleeting visibility from roadways, buildings, and public spaces; its varying design and exterior color; and additional locations with graffiti (most prominently where it crosses I-395). The transition from below- to above-ground portions along Maryland Avenue SW further detracts from the Project's overall visual coherence, which fragments the urban fabric and further reduces the Corridor's visual continuity.

14.3.3. Landscape Composition and Vividness

The moderate to high levels of visual composition and vividness of the Long Bridge Corridor's Potomac River setting stems from the natural character of its setting within the Potomac River corridor and from its prominent location within the topographic bowl of the region, where notable monuments, memorials, and visual landmarks of the Monumental Core are visible in the distance. The Study Area is within the MVMH Cultural Landscape, an intentionally designed landscape meant to provide a scenic environment for travelers along the GWMP/MVMH. Several elements diminish the Local Study Area's vividness north and south of the river. These elements include the dominance of transportation infrastructure, the visual character of the railroad corridor itself, and the discontinuous nature of the railroad corridor's visual presence.

14.3.4. Existing Views and Viewsheds

Existing views along and across the Potomac River, as well as those from surrounding streets, public spaces, and distant points at higher elevations, define the visual character of the Local Study Area. In general, the clearest and most significant views of the Long Bridge occur near the Potomac River and at select locations where the Corridor crosses major roadways or passes beneath the street network. While the Long Bridge Corridor is visible from a distance upstream, downstream, and higher elevations, the visual character of the Corridor from these points is generally more difficult to discern. **Figure 14-1** shows the representative views chosen for photo simulations overlaid on a map of historic resources in the Study Areas. **Appendix D2, Affected Environment**, describes the range of representative views and shows photographs. Specific representative views include:

- Views from the ridgeline of the topographic bowl and Potomac River;
- Views of and from the GWMP;
- Views of and from the MVT;
- Views from other bridges spanning the Potomac River;
- Views from the Potomac River; and
- Views from and of East Potomac Park.

As noted in **Section 14.2.2, Methodology**, the analysis chose the following locations for the photo simulations as representative of the views and viewers discussed above**:**

- **Topographic Bowl and Potomac River:** Views from Arlington House, the Robert E. Lee Memorial (**View A**) and Arlington National Cemetery, Tomb of the Unknown Soldier (**View B**) represent typical panoramic views of the topographic bowl, with the Potomac River and Anacostia ridgeline serving as a backdrop. The existing Long Bridge truss above the tree line is the most visible portion of the bridge. Viewers include tourists and other visitors.
- **GWMP:** Views from vehicles traveling southbound (**View C**) and northbound (**Views D and E**) as they approach the railroad bridge represent the experience of commuters and travelers by motor vehicle. These travelers experience a curving roadway framed by vegetation on both sides, with a sequence of arched bridges spanning the roadway.
- **MVT:** Views from the MVT northbound looking across the river towards Long Bridge (**View F**) and southbound looking at Long Bridge as it passes over the trail (**View G**) represent the experience of trail users. Pedestrians and bicyclists along the trail experience panoramic views of the Potomac River with the Monumental Core visible in the distance (**View F**) as well as a linear view of the trail (**View G**) with lush vegetation and mature trees framing the view and providing a sense of enclosure.
- **Bridges Spanning the Potomac River:** A view from the Metrorail Bridge looking south towards Long Bridge (**View H**) represents the experience of travelers on the bridges crossing the Potomac River. These viewers have a clear close-up view of Long Bridge and its existing truss.

- **Potomac River:** A view from the Potomac River looking north (**View I**) represents the experience of travelers by boat. From this perspective, viewers see the existing Long Bridge truss, parapets, and piers in the foreground, masking the view of the sequence of bridges further upriver.
- **East Potomac Park:** A view from East Potomac Park looking south (**View J**) represents the experience of park users traveling on East Ohio Drive between the Tidal Basin and Hains Point. From this perspective, viewers see the existing railroad bridge in the foreground, framed by vegetation including a row of Japanese cherry blossom plantings. Two other views looking northwest towards Long Bridge (**Views K and L**) represent the experience of park users making use of the path and green space along the water's edge.

14.3.5. Nighttime Conditions

A limited number of light sources and overall low ambient light levels largely characterize the existing railroad Corridor as it crosses the Potomac River and continues north and south across East Potomac Park and the GWMP, respectively. In these areas, the Long Bridge Corridor is mostly unlit. The existing Long Bridge has no lighting except for a series of small red lights denoting, for navigational purposes, the underside of the bridge where it spans the Potomac River.

Other permanent outdoor light sources near the Long Bridge Corridor include, most significantly, the street lighting on both spans of the 14th Street Bridge and the multicolored artistic light installation within the Bridge Tender's House on the 14th Street Bridge. Other light sources include street lighting along the GWMP (particularly between Ronald Reagan Washington National Airport and I-395, with more modest street lighting north of I-395) and modest, pedestrian-oriented street lighting within East Potomac Park. At the southern end of the Local Study Area, the most significant, if intermittent, source of light is the athletic field lighting used for nighttime events at Long Bridge Park. The eastern side of the Long Bridge Corridor, adjacent to the Roaches Run Waterfowl Sanctuary, is largely unlit.

Intermittent sources of light in the Study Area include the headlights of cars on GWMP and I-395, airplanes landing and taking off from Ronald Reagan Washington National Airport, illuminated Metrorail trains crossing the GWMP and the river, and the lights of bicyclists on the MVT (particularly during the evening rush hour in cold-weather months, when the sun sets early and bare trees make the trail more visible to drivers and other passersby).

Figures illustrating representative nighttime conditions and light sources near the Long Bridge Corridor can be found in **Appendix D2, Affected Environment Report**.

14.4. Permanent or Long-Term Effects

This section discusses the permanent or long-term effects following the construction of the No Action Alternative and Action Alternatives on aesthetics and visual resources. For a complete description of the permanent or long-term effects, see **Appendix D3, Environmental Consequences Report**.

14.4.1. No Action Alternative

The transportation projects included in the No Action Alternative are not expected to result in changes to the views within the Local and Regional Study Areas. The existing Long Bridge Corridor would remain in its current condition. However, development projects in Arlington and the District may affect

panoramic views from the GWMP, the MVT, and East Potomac Park. Specifically, the second phase of the Wharf redevelopment will be visible to travelers and users of the GWMP and MVT within the panoramic view of the Monumental Core. From viewpoints along Ohio Drive SW in East Potomac Park, additional development in Pentagon City (including, potentially, the new Amazon HQ2 buildings) would be visible within the panoramic view of Virginia encompassing the United States Air Force Memorial and Ronald Reagan Washington National Airport.

14.4.2. Action Alternative A (Preferred Alternative)

Table 14-1 summarizes the visual impacts of the Preferred Alternative. The table identifies each view using the corresponding identification letter, as illustrated in **Figure 14-1** and described in **Section 14.3.4, Existing Views and Viewsheds**. For each view, the table offers a brief summary of the impact along with the intensity of the impact. **Figures 14-2 through 14-13** illustrate the impacts by comparing photographs of existing views with renderings of Action Alternative A.

14.4.2.1. Topographic Bowl and Potomac River

Action Alternative A would have negligible permanent direct adverse impacts to views of the topographic bowl and Potomac River from the surrounding ridgeline. The new bridge would blend in with its surroundings. Existing vegetation and the distance of the view would obscure the new bridge (**Figures 14-2 and 14-3**).

14.4.2.2. George Washington Memorial Parkway

Action Alternative A would have minor to moderate permanent direct adverse impacts to views along the GWMP by adding an additional bridge crossing the roadway (**Figures 14-4 through 14-6**). The new bridge would negatively affect the cultural order by altering the spacing between bridges and contrasting with the typical arched form of bridges elsewhere along the GWMP. It would also negatively affect the natural harmony of this part of the GWMP by removing vegetation and stands of trees included as part of the original parkway design

14.4.2.3. Mount Vernon Trail

Action Alternative A would have negligible adverse direct impacts to views from the MVT traveling north from Gravelly Point. The new bridge and changes to the visual environment would be either mostly unnoticeable or not visible from points south of the existing Long Bridge (**Figure 14-7**). However, Action Alternative A would have major permanent direct adverse impacts to visual quality when approaching the new bridge from the north along the MVT as it passes under the complex of bridges. In this location, the removal of several mature trees would substantially reduce the natural harmony and sense of enclosure along that portion of the trail (**Figure 14-8**).

Table 14-1 | Permanent Direct Visual Impacts of Action Alternative A

View	Impact Description	Direct Impact
A	New bridge would blend into existing land uses and visual elements.	Negligible adverse
B	New bridge would be largely hidden from view behind the tree canopy.	Negligible adverse
C	New bridge would obscure portion of existing historic bridge and create loss of transparency in space between existing bridges, negatively affecting cultural order.	Minor adverse
D	Straight bottom of new bridge would be visible beneath arch of existing bridge and would be incompatible with arched form of other bridges in the series, negatively affecting cultural order.	Moderate adverse
E	New railroad bridge mostly obscured by existing bridge; loss of trees due to construction mostly obscured by remaining trees in foreground.	Minor adverse
F	New railroad bridge mostly unnoticeable or not visible.	Negligible adverse
G	New railroad bridge clearly visible; removing mature trees would reduce natural harmony and sense of enclosure.	Major adverse
H	New railroad bridge clearly visible in the foreground; larger concentration of transportation infrastructure would contrast with and diminish the natural harmony of the river vista.	Minor adverse
I	New railroad bridge partially visible above existing bridge's parapets; new piers visible below existing bridge's deck, reducing transparency beyond the existing bridge. Existing concentration of bridges part of cultural order; would absorb and minimize new span's adverse impact.	Minor adverse
J	New railroad bridge clearly visible; tree removal reducing natural harmony and sense of enclosure.	Major adverse
K	New visual elements and changes to the visual environment largely obscured by existing built and natural elements.	Negligible adverse
L	New visual elements and changes to the visual environment largely obscured by existing build and natural elements.	Negligible adverse

14.4.2.4. Bridges Spanning the Potomac River

Action Alternative A would have minor permanent direct adverse impacts to views from the bridges spanning the Potomac River. The new bridge would create a larger concentration of transportation infrastructure in the foreground of these views, contrasting with the natural harmony of the river vista (**Figure 14-9**). However, this section of the river is already dominated by bridges. Therefore, the additional bridge would not affect the cultural order of this view.

14.4.2.5. Potomac River

Action Alternative A would have minor permanent direct adverse impacts to views from the Potomac River. While the new railroad bridge would affect the overall visual experience of the Potomac River, viewers would be less sensitive to the new bridge's appearance due to competing views of Arlington and

the District. Despite the slightly greater height of the new bridge span (approximately 5 feet higher at top of rail) and the increased density of bridge piers, the new bridge would be largely concealed behind existing bridges except for viewers within the complex of bridges (**Figure 14-10**). The existing concentration of transportation infrastructure along this segment of the Potomac River would absorb and minimize the new span's adverse impact on the cultural order of this view.

14.4.2.6. East Potomac Park

In general, Action Alternative A would have negligible permanent direct adverse impacts to views from East Potomac Park, as changes would not be very noticeable due to the distance of the view and the existing built environment, which consists of a number of bridges (**Figures 14-12 and 14-13**). This sequence of bridge crossings provides a sense of cultural order to views upstream and downstream along the river. However, Action Alternative A would have major adverse effects to views immediately adjacent to the existing bridge along Ohio Drive SW. The removal of mature trees and the construction of a retaining wall to support the new tracks, replacing the existing vegetated embankment, would make the railroad infrastructure more prominent and substantially affect the natural harmony of the existing view (**Figure 14-11**).

14.4.2.7. Nighttime Conditions

Action Alternative A would not cause permanent direct or indirect adverse impacts to nighttime conditions. Action Alternative A would maintain the minimal lighting that currently exists along the Long Bridge Corridor. Given the negligible light emissions from the existing Long Bridge Corridor, no adverse impact is expected, due to the low potential for light spillage. Lighting would be incorporated as part of the new bridge for navigational purposes only.

14.4.3. Action Alternative B

As shown in **Table 14-2** and illustrated in **Figures 14-2 through 14-13**, Action Alternative B would have similar impacts as Action Alternative A, except for views where the existing truss is noticeable and portions of the GWMP where removal of the existing railroad bridge would alter views. The additional impacts of these changes can be either adverse or beneficial:

- Along the GWMP, removal of the existing railroad bridge over the roadway would create a moderate adverse direct impact. The new bridge, which would not be arched, would be inconsistent with the prevailing arched form seen in other bridges along the GWMP (Figures 14-4 through 14-6).9
- Along the GWMP, removal of mature vegetation framing the curved roadway would create a major adverse direct impact. The trees currently screen existing transportation infrastructure (Figure 14-6).

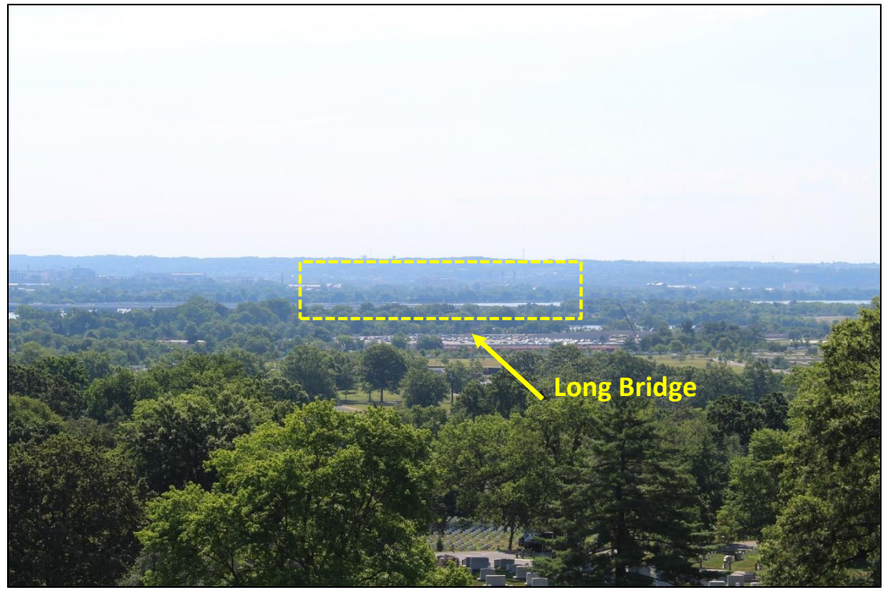
[9] This bridge is more properly known as the Richmond, Fredericksburg & Potomac Railroad (RF&P RR) Underpass. It was designed in 1930 to move parkway traffic around the railroad. While the underpass contributes to the significance of the GWMP historic district from a transportation perspective, it was constructed by the railroad company and did not conform to the other bridges on the GWMP. As a result, planners and landscape architects used large trees and other vegetation to screen the industrial looking underpass bridge as much as possible from the roadway.

325 **Table 14-2** | Permanent Direct Visual Impacts of Action Alternative B

View	Impact Description	Direct Impact
A	Removal of existing truss as a visual element would not be noticeable.	Negligible adverse
B	Removal of existing truss as a visual element would not be noticeable.	Negligible adverse
C	Loss of existing historic bridge, which reflects the prevailing arched form of bridges elsewhere along the GWMP, negatively affecting cultural order.	Moderate adverse
D	Loss of existing historic bridge, which reflects the prevailing arched form of bridges elsewhere along the GWMP, negatively affecting cultural order.	Moderate adverse
E	Loss of existing historic bridge, which reflects the prevailing arched form of bridges elsewhere along the GWMP, negatively. Loss of mature trees would negatively affect natural harmony by reducing the sense of a curving roadway framed by vegetation.	Major adverse
F	Moderate adverse impact due to removal of existing truss as an identifiable landmark, negatively affecting cultural order; loss of trees negatively affecting natural harmony. Minor beneficial impact as removal of existing truss opens up views of the Monumental Core.	Moderate adverse & minor beneficial
G	Contrast between new bridges and natural environment; removing mature trees would substantially reduce natural harmony and sense of enclosure.	Major adverse
H	Moderate adverse impact as the larger concentration of transportation infrastructure would contrast with and diminish the natural harmony of the river vista. Loss of existing truss would remove a visual landmark, negatively affecting cultural order. Minor beneficial impact as removing existing truss would open up views to the river and ridgeline.	Moderate adverse & minor beneficial
I	Additional bridge would obstruct views and diminish natural harmony of river vista; loss of truss would remove a visual landmark, negatively affecting cultural order. Existing concentration of bridges would absorb and minimize new span's adverse impact.	Minor adverse
J	New railroad bridge clearly visible; tree removal would substantially reduce natural harmony and sense of enclosure.	Major adverse
K	Removing existing truss would alter historic views. New visual elements and changes to the visual environment largely obscured by existing built and natural elements.	Moderate adverse
L	Removing existing truss would alter historic views. New visual elements and changes to the visual environment largely obscured by existing built and natural elements.	Moderate adverse

326

Figure 14-2 | View A: Arlington House, the Robert E. Lee Memorial (bridge location outlined in yellow)



Existing Condition

Location Map

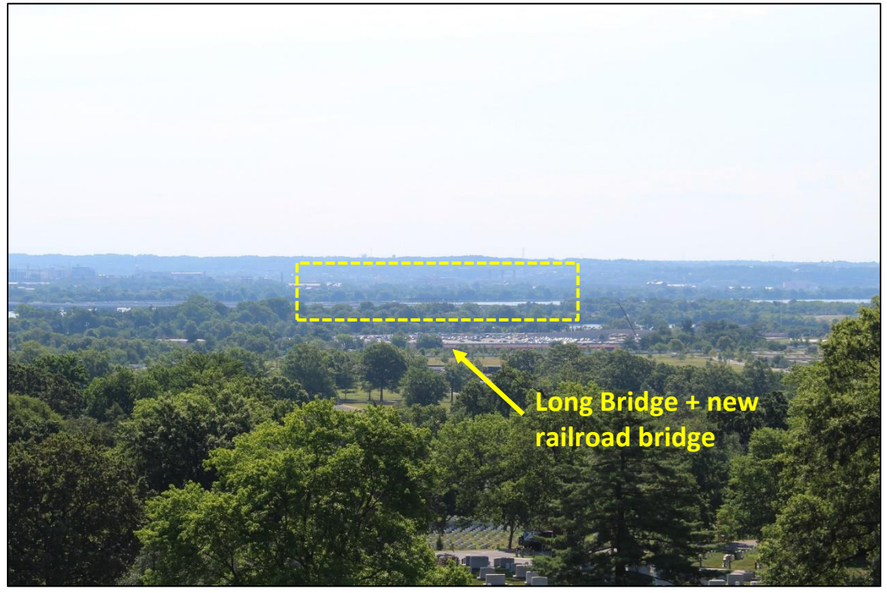
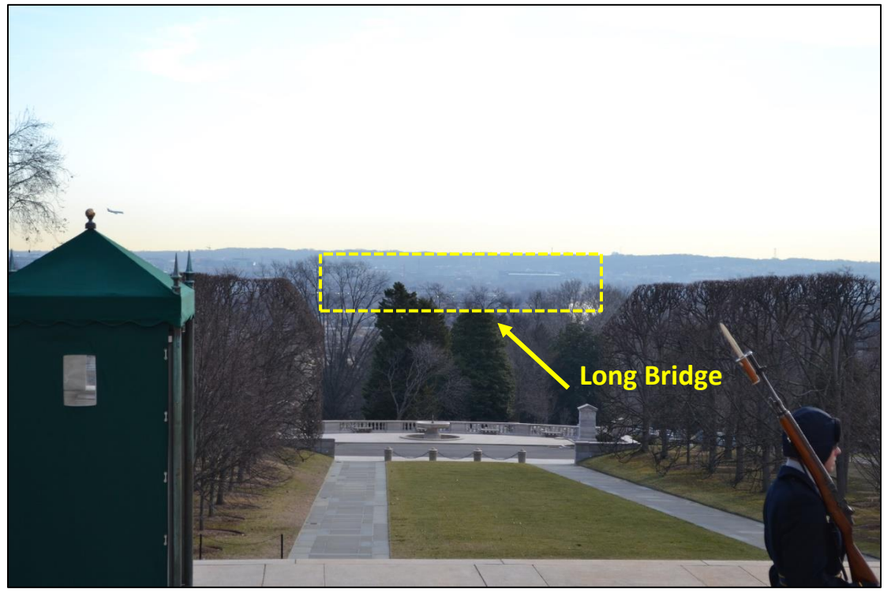


Photo Simulation of Action Alternative A

Photo Simulation of Action Alternative B

Figure 14-3 | View B: Arlington National Cemetery, Tomb of the Unknown Soldier (bridge location outlined in yellow)



Existing Conditions

Location Map

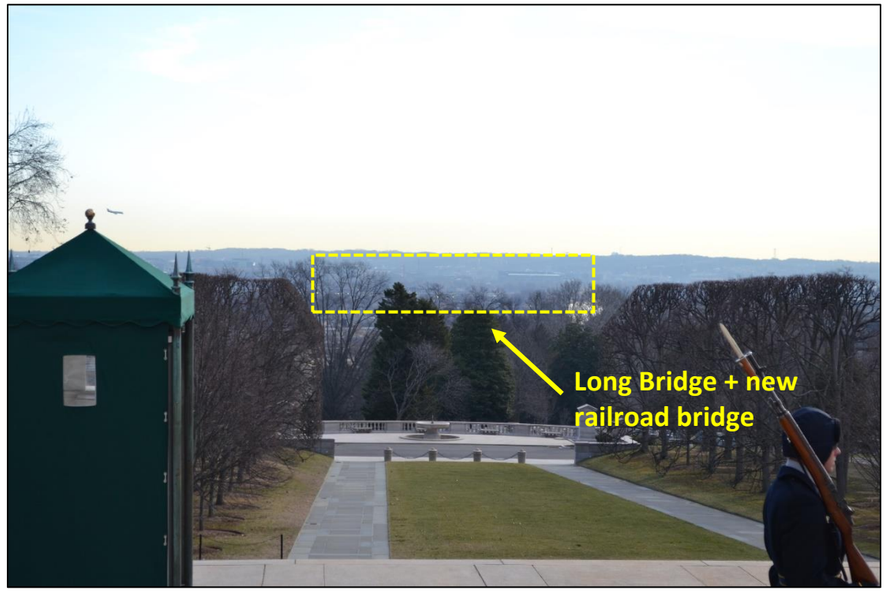


Photo Simulation of Action Alternative A

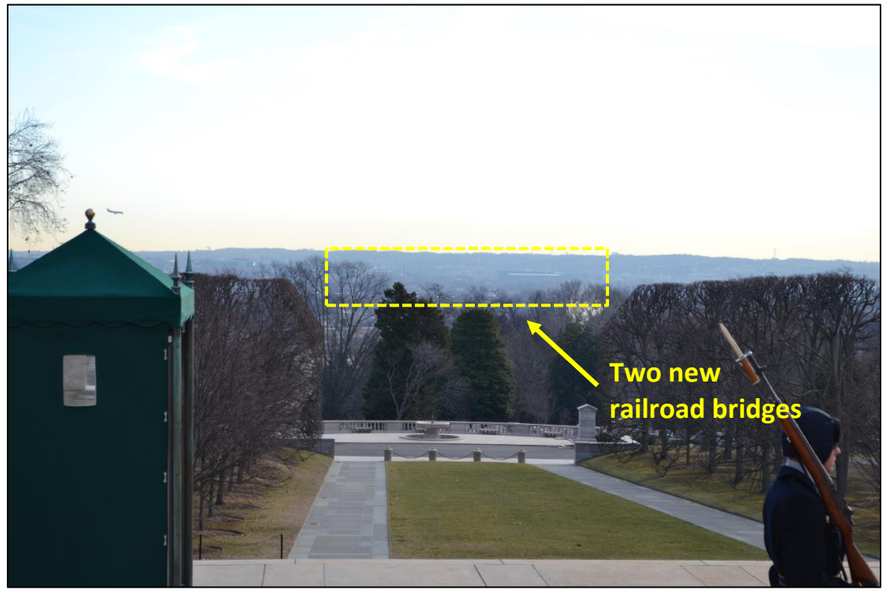


Photo Simulation of Action Alternative B

346 **Figure 14-4** | View C: George Washington Memorial Parkway Southbound, Approaching Metrorail Bridge

347

348 *Existing Conditions*

349

350 *Location Map*

351

352 *Photo Simulation of Action Alternative A*

353

354 *Photo Simulation of Action Alternative B*

355 **Figure 14-5** | View D: George Washington Memorial Parkway Northbound, Approaching Long Bridge

356 *Existing Conditions*

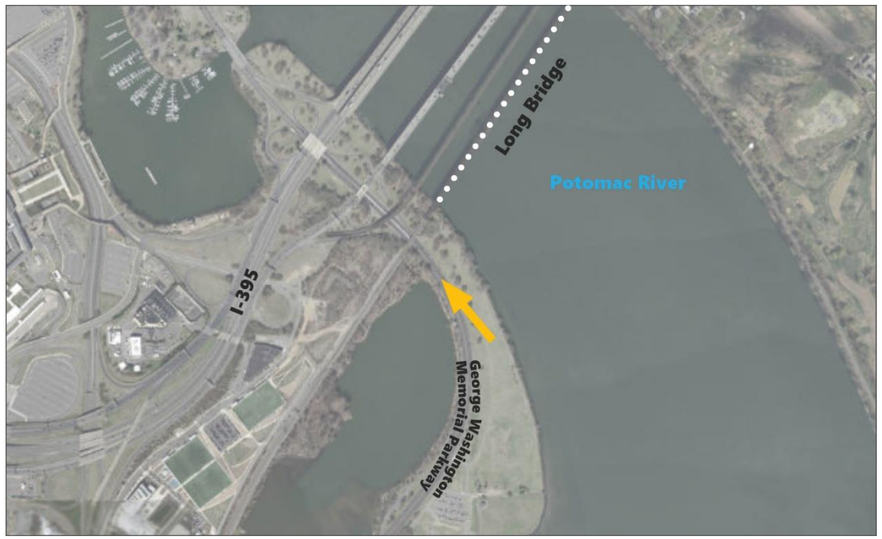
358
359 *Location Map*

360
361 *Photo Simulation of Action Alternative A*

362
363 *Photo Simulation of Action Alternative B*

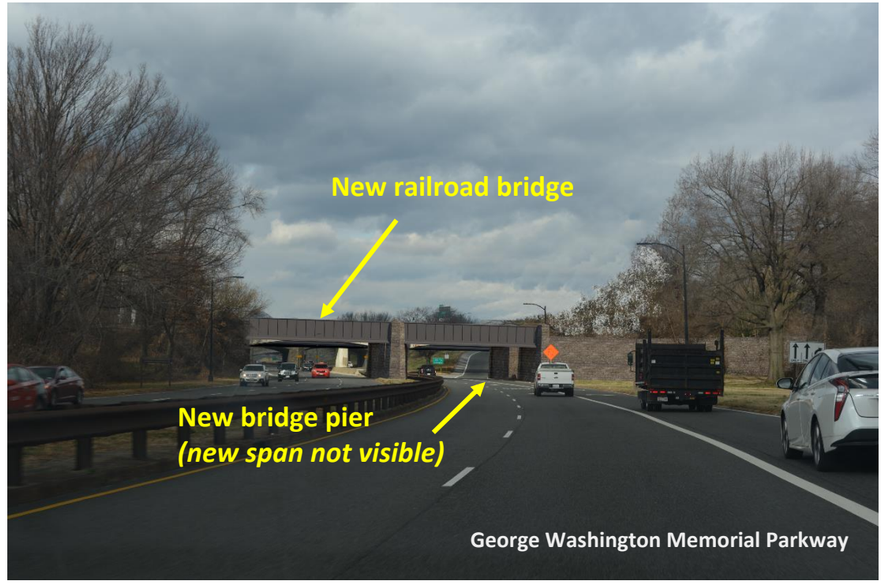
364 **Figure 14-6** | View E: George Washington Memorial Parkway Northbound, Approaching Long Bridge

365 *Existing Conditions*



367
368 *Location Map*

369
370 *Photo Simulation of Action Alternative A*



371
372 *Photo Simulation of Action Alternative B*

373 **Figure 14-7** | View F: Mount Vernon Trail, Approaching Long Bridge from Gravelly Point

374
375 *Existing Conditions*

376
377 *Location Map*

378
379 *Photo Simulation of Action Alternative A*

380
381 *Photo Simulation of Action Alternative B*

Figure 14-8 | View G: Mount Vernon Trail at Long Bridge

Existing Conditions

Location Map

Photo Simulation of Action Alternative A

Photo Simulation of Action Alternative B

391 **Figure 14-9** | View H: Metrorail Bridge Looking South Towards Long Bridge

392
393 *Existing Conditions*

394
395 *Location Map*

396
397 *Photo Simulation of Action Alternative A*

398
399 *Photo Simulation of Action Alternative B*

Figure 14-10 | View I: Potomac River, South of Long Bridge

Existing Conditions

Location Map

Photo Simulation of Action Alternative A

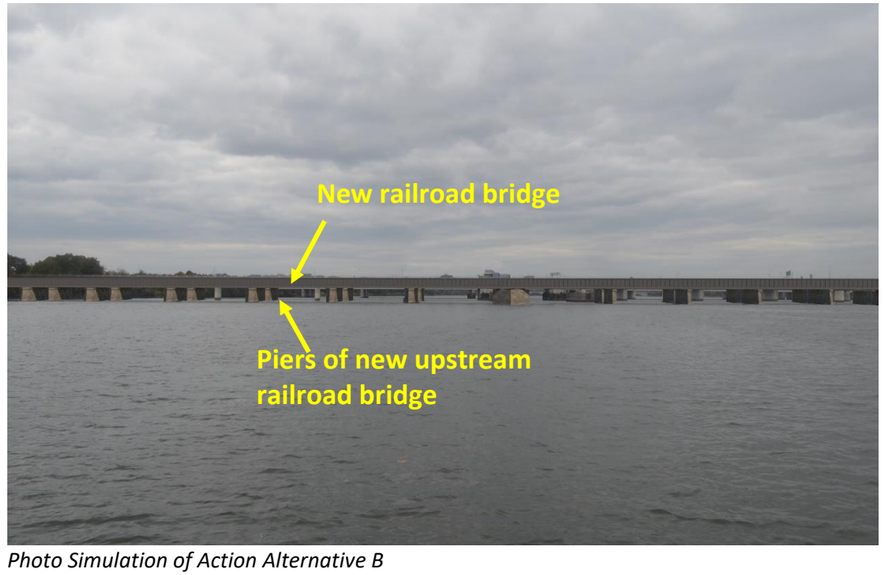


Photo Simulation of Action Alternative B

412 **Figure 14-11** | View J: East Potomac Park, Ohio Drive SW at Long Bridge

413
414 *Existing Conditions*

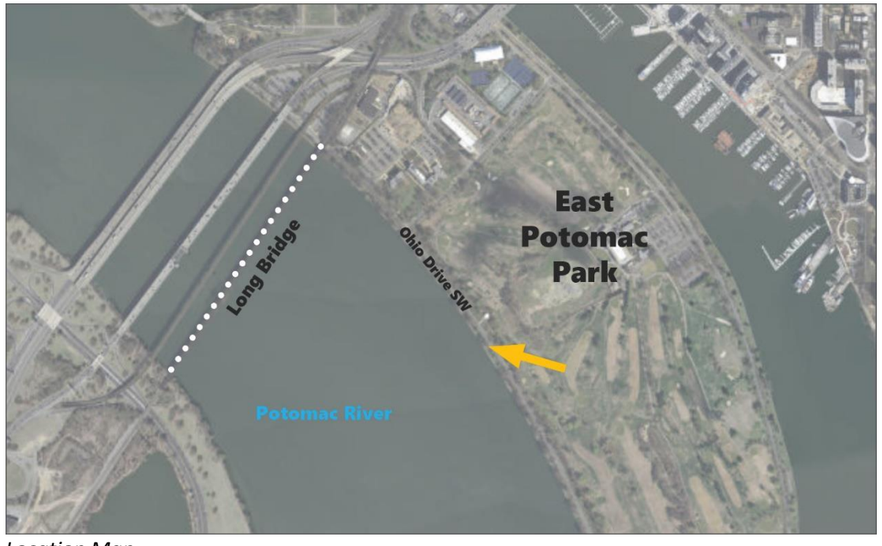
415
416 *Location Map*

417
418 *Photo Simulation of Action Alternative A*

419
420 *Photo Simulation of Action Alternative B*

Figure 14-12 | View K: East Potomac Park, Near Buckeye Drive Looking Northwest

Existing Conditions



Location Map

Photo Simulation of Action Alternative A

Photo Simulation of Action Alternative B

Figure 14-13 | View L: East Potomac Park at South End of Golf Course Looking Northwest

Existing Conditions

Location Map

Photo Simulation of Action Alternative A

Photo Simulation of Action Alternative B

- For views from the MVT towards the Monumental Core, removal of the existing truss would create both a moderate adverse direct effect by removing an identifiable landmark, and a minor beneficial direct effect by opening up views towards the Monumental Core (**Figure 14-7**).
- From the bridges spanning the Potomac River, loss of the existing truss would create both a moderate adverse direct effect by removing an identifiable landmark, and a minor beneficial direct effect by opening up views to the river and ridgeline (**Figure 14-9**).

14.5. Temporary Effects

This section discusses the direct or indirect temporary effects of the No Action Alternative and Action Alternatives during construction, based on conceptual engineering design. For the complete technical analysis of the potential temporary impacts to aesthetics and visual resources, see **Appendix D3, Environmental Consequences Report**.

14.5.1. No Action Alternative

The No Action Alternative may result in adverse direct or indirect temporary visual effects due to construction activities within the Local Study Area. Specifically, the DC to Richmond Southeast High Speed Rail project may require construction staging and access in Long Bridge Park, and the VRE L'Enfant Station Improvements project may require construction access from Hancock Park (Reservation 113).

14.5.2. Action Alternative A (Preferred Alternative)

Construction activities under Action Alternative A would have an estimated overall duration of approximately 5 years and would generate moderate and major temporary direct adverse impacts during that time, as described below. **Table 14-3** summarizes the temporary visual impacts.

14.5.2.1. Long Bridge Park

Construction activities near Long Bridge Park would last approximately 4 years and 2 months and would cause a moderate temporary direct adverse impact to visual quality. Action Alternative A would require use of portions of Long Bridge Park for construction staging and access. Park users may see construction fencing, vehicles, and structures. Construction activities could disrupt the visual coherence of the park experience. Vegetation removal would cause disruptions to the natural harmony experienced by viewers. Screening vegetation could reduce impacts to viewers during spring and summer months, while impacts during low foliage seasons including fall and winter would be greater.

14.5.2.2. George Washington Memorial Parkway and Mount Vernon Trail

Construction activities of Action Alternative A near the GWMP and MVT would cause major temporary direct adverse impacts to visual quality. Construction activities would last approximately 2 years over the GWMP roadway and approximately 3 years and 4 months over the MVT and Potomac River. Activities would be highly visible to pedestrian, bicycle, vehicular, watercraft, train, and Metrorail viewers. Temporary relocation of the MVT would alter and disrupt the views experienced by users. Ground cover, scrub vegetation, and mature trees would be removed to accommodate construction

activities, causing breaks in continuous vegetative views. Vegetation removal would be noticeable and would yield a reduction in natural harmony experienced by viewers.

Table 14-3 | Action Alternative A Summary of Temporary Visual Impacts

Location	Impact Description	Direct Impact
Long Bridge Park	Construction fencing, vehicles, and structures may be visible to park users. Construction activities could disrupt the visual coherence of the park experience. Vegetation removal would cause disruptions to the natural harmony experienced by viewers.	Moderate adverse
George Washington Memorial Parkway and Mount Vernon Trail	Activities would be highly visible to pedestrian, bicycle, vehicular, watercraft, train, and Metrorail viewers. Vegetation removal would be noticeable and would yield a reduction in natural harmony experienced by viewers.	Major adverse
Potomac River and Washington Channel	Construction activities would be visible from both up and down river as well as from the nearby bridges and shores; views may be disrupted depending on heights and placement of construction elements. Vegetation removal could reduce natural harmony of river vistas.	Moderate adverse
East Potomac Park and Monumental Core	Activities would be highly visible, altering views both toward and away from the Monumental Core. Vegetation removal would alter natural harmony and temporarily disrupt the visual coherence of East Potomac Park.	Major adverse
L'Enfant Plaza and Southwest Waterfront	Construction activities would be highly visible, disrupting views from both lower elevations, such as the waterfront, as well as higher elevations, such as the elevated Maryland Avenue SW traffic circle. Several views would be altered and may be partially obstructed, reducing the cultural order.	Major adverse

14.5.2.3. Potomac River and Washington Channel

Construction activities of Action Alternative A in the Potomac River and Washington Channel would cause moderate temporary direct adverse impacts to visual quality. Construction activities would last approximately 3 years and 4 months over the Potomac River and approximately 4 years and 1 month over the Washington Channel. Construction activities would be visible from both up and down river as well as from the nearby bridges and shores; views may be disrupted depending on heights and placement of construction elements. Additionally, clearance of vegetation and lawn areas by construction activities and laydown areas could adversely impact river vistas by giving portions of the river banks a barren, instead of verdant, appearance thereby reducing the natural harmony experienced by viewers.

14.5.2.4. East Potomac Park and Monumental Core

Construction activities of Action Alternative A in East Potomac Park would result in major temporary direct adverse impacts to visual quality. Construction activities would last approximately 4 years and 9 months in East Potomac Park. Activities would be highly visible, altering views both toward and away

from the Monumental Core. The cultural and natural elements in this area form a distinct visual experience which would be temporarily disrupted by activities. Vegetation removal would alter natural harmony and temporarily disrupt the visual coherence of East Potomac Park, particularly as experienced along Ohio Drive SW within closest proximity to the Japanese cherry blossom plantings and established plantings along the Potomac River.

14.5.2.5. L'Enfant Plaza and Southwest Waterfront

Construction activities of Action Alternative A in L'Enfant Plaza and the Southwest Waterfront would cause major temporary direct adverse impacts to visual quality. Construction activities would last between approximately 3 to 4 years in these locations. Construction activities would be highly visible, disrupting views from both lower elevations, such as the waterfront, as well as higher elevations, such as the elevated Maryland Avenue SW traffic circle. Several views would be altered and may be partially obstructed, including views from the Maryland Avenue SW circle toward the Capitol and down to the monuments, toward and from the Washington Marina, and toward the Portals development from 14th Street and D Street NW. This would reduce the cultural order of the visual environment in this area.

14.5.3. Action Alternative B

Construction activities for Action Alternative B would be similar to Action Alternative A, but the duration would be extended by 3 years and 3 months. Construction staging and access locations would be the same as for Action Alternative A, resulting in no additional visual impact. However, the additional construction time would add to the disruption and inconvenience of the visual impacts.

14.6. Avoidance, Minimization, and Mitigation

This section describes proposed mitigation for the impacts to visual and aesthetic resources.

Potential mitigation of visual and aesthetic impacts would be developed in accordance with Federal guidelines and evaluated based on their effectiveness in mitigating the impacts. For a complete description of the avoidance, minimization, and mitigation measures, see **Appendix D3, Environmental Consequences Report**. As the Project design advances, continued avoidance and minimization measures would be explored for impacts identified above.

Potential measures the Virginia Department of Rail and Public Transportation (DRPT), the project sponsor for final design and construction, would take to avoid, minimize, or mitigate long-term adverse direct impacts on aesthetics and visual resources include:

- Restoring any vegetation within areas of temporary impact, including landscape plantings, ground cover, and trees following construction, as well as monitoring to ensure vegetation survival.
- Implementing final landscaping, including planting, plant selection, and berms, in a manner that mitigates visual impacts on the GWMP, MVT, and East Potomac Park, and includes NPS as a participant in the design process. NPS will approve any plans prior to implementation. This mitigation may take place outside of the limits of disturbance, as identified by NPS.

- During later design phases, refining bridge structure design and materials to mitigate impacts on visual resources and ensure aesthetic compatibility with built, natural, and cultural resources in the surrounding visual environment.

Potential measures DRPT would take to avoid, minimize, or mitigate temporary adverse direct impacts on aesthetics and visual resources include:

- Developing a tree protection plan and implementing tree protection measures for trees within or immediately adjacent to the limits of disturbance.
- Using aesthetically pleasing construction fencing and barriers to block potentially unattractive views into construction areas. Screening vegetation may also minimize visual impacts of construction activities on viewers.
- Maintaining visitor access to parkland and trails in the vicinity of the Project to the maximum extent feasible during construction.
- Using clear, legible, and attractive signage for construction, traffic control, and MVT relocation, designed in consultation with NPS.
- Wherever possible, DRPT would avoid the use of the GWMP to transport construction equipment. Any use of the GWMP to transport construction equipment would require NPS approval for access.